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EXAMINER

NGUYEN, THONG Q

ART UNIT

PAPER NUMBER

2872

DATE MAILED: 01/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/628,839

Applicant(s)

MESSERSCHMIDT ET AL.

Examiner

Thong Q. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-40 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/28/03 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____

DETAILED ACTION

Information Disclosure Statement

1. Each of the U.S. patents, labeled as "AA", "AB", "AC"; the U.S. patent application, labeled as "AD", and the reference, titled "Internal Reflection Spectroscopy" labeled as "CV" in the information disclosure statement filed 10/09/2003 has been lined-through because the applicant has failed to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered.

Drawings

2. The drawings contain eleven sheets of figures 1-16 were received on 7/28/2003. These drawings are objected by the Examiner for the following reasons.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description: Each of the reference "293" shown in figure 2; the references "402" and "410" shown in figure 4; the references "502", "510", "592", "593" and "594" shown in figure 5; the references "602", "610", "692" and "693" shown in figure 6; the reference "710" shown in figure 7; the references "807" and "810" shown in figure 8; and the references "12" and "12'" shown in figure 12 is not mentioned in the specification. A proposed drawing correction, corrected drawings, or amendment to the specification to add the reference sign(s) in the description, are required in reply to the Office action to avoid

abandonment of the application. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: The references "12a" and "12b" stated in page 13, section [0043] are not shown in at least one figure. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to because it does not contain figure 11f as stated in the specification in page 13, section [0042]. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

6. The drawings are objected to because it is unclear about the information relating to the wavelengths as provided in figure 16. In particular, it is unclear what does applicant mean by providing the phrase thereof " $t = 8.0$ mm" in the figure. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

7. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the feature relating to the region for supporting a sample wherein the region is provided on a first face of a

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body as recited in each of claims 1, 24, 39 and 40 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

8. The abstract of the disclosure is objected to because it fails to provide a technical feature of the invention. Correction is required. See MPEP § 608.01(b).

9. Applicant is reminded of the proper content of an abstract of the disclosure.

A patent abstract is a concise statement of the technical disclosure of the patent and should include that which is new in the art to which the invention pertains. If the patent is of a basic nature, the entire technical disclosure may be new in the art, and the abstract should be directed to the entire disclosure. If the patent is in the nature of an improvement in an old apparatus, process, product, or composition, the abstract should include the technical disclosure of the improvement. In certain patents, particularly those for compounds and compositions, wherein the process for making and/or the use thereof are not obvious, the abstract should set forth a process for making and/or use thereof. If the new technical disclosure involves modifications or alternatives, the abstract should mention by way of example the preferred modification or alternative.

The abstract should not refer to purported merits or speculative applications of the invention and should not compare the invention with the prior art.

Where applicable, the abstract should include the following:

- (1) if a machine or apparatus, its organization and operation;
- (2) if an article, its method of making;
- (3) if a chemical compound, its identity and use;
- (4) if a mixture, its ingredients;
- (5) if a process, the steps.

Extensive mechanical and design details of apparatus should not be given.

10. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is

requested in correcting any errors of which applicant may become aware in the specification.

11. The disclosure is objected to because of the following informalities: a) Page 3: lines 11-18, the brief descriptions of figures 3-6 are unclear. It is unclear the difference(s) of each figures from the information provided for the figures 3-6 as provided; b) Page 3: lines 19-24, the objection to the figures for the similar reason as set forth in element a) above is applied to the brief descriptions of figures 7-8 and the brief descriptions of figures 9-10; c) page 10: line 26, what is "ATR"? There are still some grammatical and idiomatic errors in the specification. Applicant should carefully proofread the specification. Appropriate correction is required.
12. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The specification fails to provide a proper antecedent basis for each of the following features which are recited in the claims.

First, the feature relating to the range governing the dimension or the dimension of the body as recited in each of claims 10-12 (Applicant should note that the dimension provided in page 9 is those of the frame supporting the body);

Second, the feature relating to the range governing the refractive index of the sample holder as recited in claim 14;

Third, the feature relating to the range governing the angle as recited in each of claims 20 and 31; and

Fourth, the feature relating to the range governing the dimension of the frame as recited in claim 27.

Claim Rejections - 35 USC § 112

13. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 6-9, 15, 25-26, 30 and 38 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a) Each of claims 6-9 and 25-26 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim. In particular, the feature thereof "the shape of the body is compatible with contemporary infrared microscopes" (claim 6, lines 1-2) is indefinite.

b) Each of claims 15 and 30 is rejected under 35 USC 112, second paragraph because each of the claims recites a numerous types of materials for the body; however, each of the claim fails to list the material as the one selected from a group of claimed types of materials. See *Ex parte Markush*, 1925 C.D. 126 (Comm'r Pat. 1925).

c) Claim 38 is rejected under 35 USC 112, second paragraph because it is unclear about the structural relationships of the mechanism used to mount the sample interface to the frame as recited in the feature thereof "ledges on the frame...combination thereof" (claim 38, lines 2-5).

Claim Rejections - 35 USC § 102

15. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

16. Claims 1-3, 5-9, 13-15, 24-26, 29-30 and 39-40, as best as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Reffner et al (U.S. Patent No. 5,616,922).

Reffner et al discloses an optical device having light source, detecting system, and a system for supporting a sample. While Reffner et al do not clearly disclose a means for analyzing the collected light to determine a characteristic of the specimen; however, such a means for analyzing the sample based on the collected light is inherent in the system of Reffner as can be seen in columns 3-4 and 10 in which they disclose their system is used for spectroscopic analysis of a sample.

Regarding to the system for supporting a sample, in columns 5-7 and fig. 1, the system comprises a frame (F) for supporting a body whose material is capable to transmit light in both infrared range and visible range. The support for that conclusion is found in the Patent '922, column 6, lines 24-34 and the present specification in page 5, section [0016] in which the materials of the body of the prior art and the present claims are selected from a group of same materials. For instance, since the material of the body (11) supporting a sample can be Zinc Sulfide as that of the body provided by the present specification, thus the body supporting a sample of the Patent '922 is able to transmit light in near- and mid-

infrared range. With regard to the type of sample to be supported by the body, the sample disclosed in the Patent '922 is a non-biological sample. Regarding to the feature relating to the shape of the body as claimed, it is noted that the body supporting a sample has flat and parallel surfaces as can be seen in the figure 1. With regard to the shape of the body as recited in claims 6-9 and 25-26, the body supporting a sample as provided by Reffner is able to place into a microscope for the purpose of observation the sample illuminated by light, and thus the shape and/or the dimension of the body is compatible for use with the microscope.

17. Claims 1-4, 6-9, 13-16, 18-20, 22-23, and 39-40, as best as understood, are rejected under 35 U.S.C. 102(b) as being anticipated by Berman et al (U.S. Patent No. 6,421,548).

Berman et al discloses an optical device having light source, detecting system, and a system for supporting a sample. While Berman et al do not clearly disclose a means for analyzing the collected light to determine a characteristic of the specimen; however, such a means for analyzing the sample based on the collected light is inherent in the system of Berman as can be seen in columns 9-10 in which they disclose their system is used for spectroscopic analysis of a sample having sensors and computer.

Regarding to the system for supporting a sample, in columns 6-7 and figs. 1(A-D), the system comprises a body (104) for supporting a sample (112). The material of the body is capable to transmit light in both infrared range and visible range. The support for that conclusion is found in the Patent '548, column 7, lines

27-32 and the present specification in page 5, section [0016] in which the materials of the body of the prior art and the present claims are selected from a group of same materials. For instance, since the material of the body (104) supporting a sample can be Zinc Sulfide as that of the body provided by the present specification, thus the body supporting a sample of the Patent '548 is able to transmit light in near- and mid-infrared range. With regard to the type of sample to be supported by the body, the sample disclosed in the Patent '548 is a biological sample. Regarding to the feature relating to the shape of the body as claimed, it is noted that the body supporting a sample has flat and parallel surfaces as can be seen in the figures 1A and 1C. Regarding to the range governing the dimension of the body, in column 11, example 1, the body has a dimension of 10 x 55 x 4 mm (wide x length x thickness) which is inside the range claimed. Regarding to the angle defined by the edge and the surface, it is noted that the angles defined by the edges and surfaces are equal since the body supporting a sample as provided by Berman et al can have a parallelogram configuration and has a value smaller than 90 degrees. It is also noted that the use of mirror or reflective coating for the edge is suggested by Berman as can be seen in column 7. The making of the reflective coating or mirror as a polished surface is inherently provided because such a polished reflective surface will improve the reflective function.

With regard to the shape of the body as recited in claims 6-9 and 25-26, the body supporting a sample as provided by Berman et al is able to place into a

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microscope for the purpose of observation the sample illuminated by light, and thus the shape and/or the dimension of the body is compatible for use with the microscope.

Claim Rejections - 35 USC § 103

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 5, 24-26, 29-31, 34-35, as best as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Berman et al in view of Reffner et al.

Regarding to the type of sample to be supported by a body having material allowing transmission of both infrared range and visible range, it is noted that while the sample disclosed by Berman et al is a biological sample; however, such a body disclosed by Berman et al can support a non-biological sample because 1) the type of sample is not critical to the invention because applicant has clearly admitted and claimed that the sample can be a biological sample (see present claim 4); and 2) the use of a body for supporting a non-biological sample is suggested by Reffner et al. See columns 6+. Thus, it would have been obvious to one skilled in the art at the time the invention was made to use the body for supporting any type of sample, including a non-biological sample, as suggested by Reffner for the purpose of observation and analyzing a sample.

Regarding to the feature relating to the frame supporting the body, such use of a frame for supporting a body making by material for transmitting both infrared light and visible light is also suggested by Reffner et al as can be seen columns 5-6 and fig. 1. It is also noted that the shape and dimension of the fixture (F) supporting the body is inherently compatible to the microscope and/or spectroscopic device for the purpose of supporting the body inside the device for observation. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the system provided by Berman et al by using a fixture or frame as suggested by Reffner et al for supporting the body in a microscope or spectroscopic device.

20. Claims 10-12, 17, and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berman et al in view of Laronga et al (U.S. Patent No. 5,249,077).

While the body supporting a sample provided by Berman et al as provided in the example 1 has a thickness of 4 mm; however, it is obvious to one skilled in the art to use body of smaller thickness for the purpose of improving the light quality and/or for utilizing the convention slide in a microscope. A typical example of a slide having a total reflection feature for use with an illumination wherein the side facing the light has a dimension of 3 x1 mm or 3 x 2 m (wide x thickness) is disclosed in the art of Laronga et al. See figure 4 and column 3. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the body supporting a sample provided by Berman et al by using a body with smaller thickness as suggested by Laronga et al for the purpose of

improving the light quality and/or for utilizing the convention slide in a microscope.

Regarding to the feature relating to the angles defined by the edges and the surfaces as claimed in claims 17 and 21, such an angle of 90 degrees for the angle defined by the edge and the surface is disclosed by Laronga et al as can be seen in the figure 4. Further, the value of 90 degrees for the angle is not critical to the invention because applicant has disclosed other embodiments in which the angle is not 90 degrees, See also present claim 20. Regarding to the value of 50 degrees, it is also an obvious matter to one skilled in the art to select any suitable angle for the angle defined by the edge and the surface for a particular application. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the body supporting a sample provided by Berman et al by making the angle of the edge and the surface as an angle of 90 degrees as suggested by Laronga et al for the purpose of reducing the manufacture cost.

21. Claims 32-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berman et al in view of Reffner et al as applied to claim 24 and further in view of Laronga et al.

The combined product provided by Berman et al and Reffner et al does not clearly disclose that the angle defined by the edge and the surface is about 90 degrees; however, such an angle formed by an edge and a surface for a body having materials allowing total reflection is known to one skilled in the art as can

be seen in the system of Laronga et al as can be seen in the figure 4. Further, the value of 90 degrees for the angle is not critical to the invention because applicant has disclosed other embodiments in which the angle is not 90 degrees, See also present claim 20. Regarding to the value of 50 degrees, it is also an obvious matter to one skilled in the art to select any suitable angle for the angle defined by the edge and the surface for a particular application. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the body supporting a sample provided by Berman et al and Reffner et al by making the angle of the edge and the surface as an angle of 90 degrees as suggested by Laronga et al for the purpose of reducing the manufacture cost.

22. Claims 24-31 and 34-38, as best as understood, are rejected under 35 U.S.C. 103(a) as being unpatentable over Berman et al in view of Messerschmidt (U.S. Patent No. 5,859,434).

Berman et al discloses an optical device having light source, detecting system, and a system for supporting a sample. While Berman et al do not clearly disclose a means for analyzing the collected light to determine a characteristic of the specimen; however, such a means for analyzing the sample based on the collected light is inherent in the system of Berman as can be seen in columns 9-10 in which they disclose their system is used for spectroscopic analysis of a sample having sensors and computer.

Regarding to the system for supporting a sample, in columns 6-7 and figs. 1(A-D), the system comprises a body (104) for supporting a sample (112). The

material of the body is capable to transmit light in both infrared range and visible range. The support for that conclusion is found in the Patent '548, column 7, lines 27-32 and the present specification in page 5, section [0016] in which the materials of the body of the prior art and the present claims are selected from a group of same materials. For instance, since the material of the body (104) supporting a sample can be Zinc Sulfide as that of the body provided by the present specification, thus the body supporting a sample of the Patent '548 is able to transmit light in near- and mid-infrared range. With regard to the type of sample to be supported by the body, the sample disclosed in the Patent '548 is a biological sample. Regarding to the feature relating to the shape of the body as claimed, it is noted that the body supporting a sample has flat and parallel surfaces as can be seen in the figures 1A and 1C. Regarding to the range governing the dimension of the body, in column 11, example 1, the body has a dimension of 10 x 55 x 4 mm (wide x length x thickness). Regarding to the angle defined by the edge and the surface, it is noted that the angles defined by the edges and surfaces are equal since the body supporting a sample as provided by Berman et al can have a parallelogram configuration and has a value smaller than 90 degrees. It is also noted that the use of mirror or reflective coating for the edge is suggested by Berman as can be seen in column 7. The making of the reflective coating or mirror as a polished surface is inherently provided because such a polished reflective surface will improve the reflective function.

With regard to the shape of the body as recited in claims 6-9 and 25-26, the body supporting a sample as provided by Berman et al is able to place into a microscope for the purpose of observation the sample illuminated by light, and thus the shape and/or the dimension of the body is compatible for use with the microscope.

Regarding to the feature relating to the frame supporting the body, which is missing from the art of Berman et al, it is noted that such use of a frame for supporting a body making by material for transmitting both infrared light and visible light is suggested by Messerschmidt as can be seen columns 3-4 and shown in figure 3. It is also noted that the shape and dimension of the frame supporting the body is inherently compatible to the microscope and/or spectroscopic device for the purpose of supporting the body inside the device for observation. The use of mechanical elements for connecting the frame and the body is indirectly suggested to one skilled in the art as can be seen in the teachings relating to the brackets and grooves provided in column 3, lines 19+.

Regarding to the dimension of the frame, it would have been obvious to one skilled in the art to design/select a suitable dimension for the frame which dimension is sufficient to cover the dimension of the slide and also small enough for fixing inside a microscope. Thus, it would have been obvious to one skilled in the art at the time the invention was made to modify the system provided by Berman et al by using a fixture or frame as suggested by Messerschmidt for supporting the body in a microscope or spectroscopic device.

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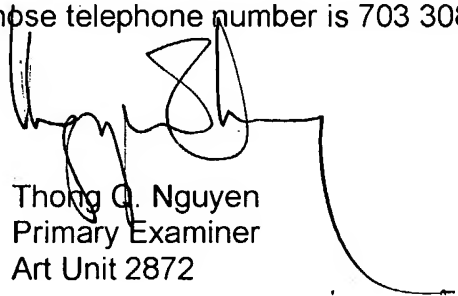
Conclusion

23. The prior art listed in the form PTO-1449 except the references labeled as "AA", "AB", "AC", "AD" and "CV" made of record and not relied upon is considered pertinent to applicant's disclosure.

24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thong Q. Nguyen whose telephone number is (703) 308-4814. **Note that after Jan. 20, the Examiner may be reached at his new telephonic number of 571-272-2316.** The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A. Dunn can be reached on (703) 305-0024. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 0956.



Thong Q. Nguyen
Primary Examiner
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